

Abstract

A light emitting diode (LED) display device comprises a substrate and a plurality of walls disposed on the substrate, the plurality of walls forming a cavity, the cavity being filled with an encapsulant not including fluorescent material. An LED is disposed on a first portion of the substrate within the cavity. An electrical connection exists between the LED and a second portion of the substrate, and a fluorescent material overlay is located at a top end of the cavity. The LED display device alternatively includes a plurality of LEDs, wherein each LED is disposed within a separate cavity.